

09/690613

-20-

ABSTRACT OF THE DISCLOSURE

A multi-phase bipolar brushless D.C. motor having an embedded permanent magnet as a rotor, an armature as a stator and a plurality of windings are sub-wound on the stator in parallel and independently phase-connected. A commutation encoder defining light shielding and light detecting portions is fixedly mounted on a shaft of the rotor to be rotated, and a photo-sensor is coupled operatively thereto and connected with a driving circuit to improve the performance of the motor.

09/690613 - 1021600